Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

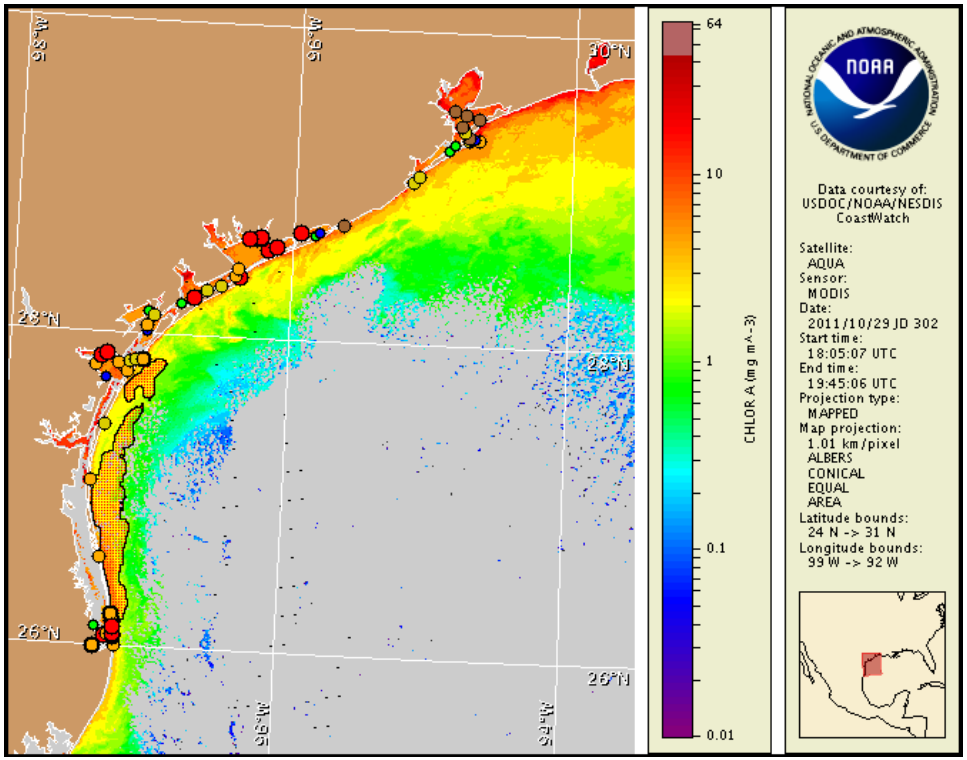
Monday, 31 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, October 27, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 21 to 31 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area. Today through Wednesday, patchy high impacts are possible along the Matagorda Peninsula, in the Port Aransas/Corpus Christi region, along South Padre Island, and within the Lower Laguna Madre and Brownsville Ship Channel area, with patchy moderate impacts possible in the Galveston/Freeport region and along the Padre Island National Seashore region. No additional impacts are expected at the coast in Texas today through Wednesday, November 2. Over the past few days, reports of respiratory irritation have been received from the Port Aransas, Padre Island National Seashore, and South Padre Island regions. Dead fish have been reported from the San Antonio Bay, Aransas Bay, and Corpus Christi Bay regions. Discolored water has been reported from the Galveston Bay, Matagorda Bay, San Antonio Bay, and Corpus Christi Bay areas.

Analysis

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area.

No new samples have been received from the Galveston/Freeport area or from along the Matagorda Peninsula and Bay region. The most recent sampling information indicated that *K. brevis* concentrations ranged between not present and 'medium' at the mouth of Bolivar Roads Pass and within Galveston Bay (10/24; TPWD). Within Matagorda Bay and East Matagorda Bay, recent samples identified not present to 'high' concentrations of *K. brevis* (10/24-25; TPWD). An overflight conducted late last week identified visible blooms in the lower reaches of Galveston Bay, with offshore blooms near Galveston Island State Park (stretching for over 1 mile), San Luis Pass, Freeport, and Pass Cavallo (stretching for over 2 miles). The bloom was visible along the north shore of East Matagorda Bay and within the northern portion of Matagorda Bay and Lavaca Bay. The bloom was also visible alongshore the western portion of San Antonio Bay and the Seadrift region. Dead fish have been reported from the Victoria Barge Canal near the State Highway 35 bridge.

In the Aransas/Corpus Christi region, several samples collected from the Gulf region of Aransas Pass indicate that *K. brevis* continues to range between 'low b' and 'medium' concentrations (10/27; TPWD). Over the past few days, slight respiratory irritation has continued to be reported in the Port Aransas region (10/27-31; TPWD). Dead fish have been reported from the Aransas National Wildlife Refuge/ICWW area, the Goose Island State Park area, and in Corpus Christi Bay at La Quinta Channel and Joe Fulton Canal. Discolored water has been identified in the western portion of Corpus Christi Bay.

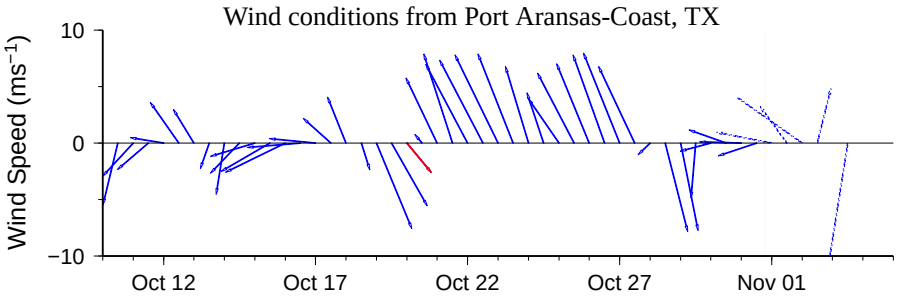
In the Padre Island National Seashore region, three samples collected along the coast from the PINS 0 mile marker to the PINS 60 mile marker ranged between 'low b' and 'medium' concentrations (10/28) indicating *K. brevis* may have decreased from the 'high'

concentrations last identified on 10/17 (TPWD). In the South Padre Island region, samples collected along the Gulf coast indicate that *K. brevis* concentrations have continued to fluctuate, decreasing in several locations through last Thursday, but increasing again over the weekend (10/27-31; TPWD). Samples collected alongshore South Padre Island (Gulf) from Beach Access 5 and 6 indicate that, as of 10/27, *K. brevis* concentrations ranged between 'low a' and 'very low b' respectively, but returned to 'medium' concentrations over the weekend (10/29; TPWD). Two samples collected from South Padre Island town beach indicate *K. brevis* concentrations have increased to 'high' (10/31) in the area where 'medium' concentrations were last identified on 10/24 (TPWD). At the southern end of South Padre Island, 'low a' concentrations continue to be found at the UTPA Coastal Studies Lab, while concentrations at the mouth of Brazos Santiago Pass have decreased and now range between 'very low a' and 'low a' (10/27-28; TPWD). Samples collected from within the lower Laguna Madre, also indicate that *K. brevis* concentrations continued to vary over the past few days. Within the western portion of the lower Laguna Madre, two samples from the Port Isabel area indicate *K. brevis* concentrations have returned to a range between 'medium' and 'high' (10/28; TPWD). Along the Laguna Madre-side of South Padre Island, a 'very low a' concentration was identified from Sea Ranch Marina, while *K. brevis* decreased to 'background' concentrations at the east end of the Queen Isabella Causeway (10/28; TPWD). Samples collected from the Isla Blanca boat ramp continue to range between 'very low b' and 'low a' (10/27-28; TPWD). Within the Brownsville Ship Channel, a sample from the San Martin Boat Ramp indicates that *K. brevis* concentrations have returned to 'medium' (10/28; TPWD). Over the past few days, slight respiratory irritation has continued to be reported along South Padre Island (10/27-31; TPWD).

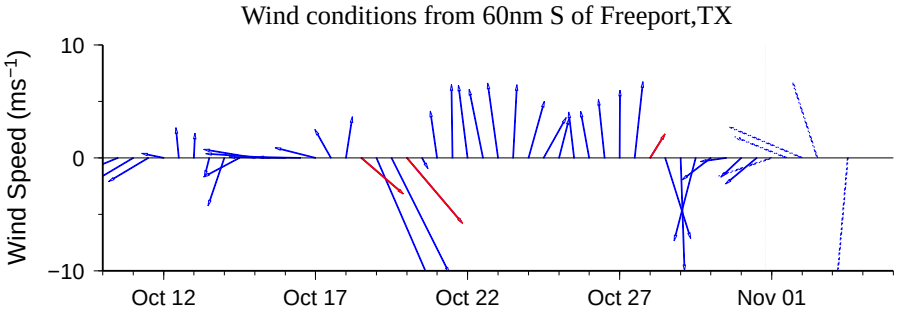
Recent MODIS imagery from 10/29 (page 1), shows a band of elevated chlorophyll (2 to <10μg/L) stretching along- and offshore from Sabine Pass to Brazos Santiago Pass. Patches of high chlorophyll (10-19μg/L) are also visible stretching alongshore from Sabine Pass to Bolivar Roads Pass and intermittently between the San Luis Pass and Pass Cavallo regions. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

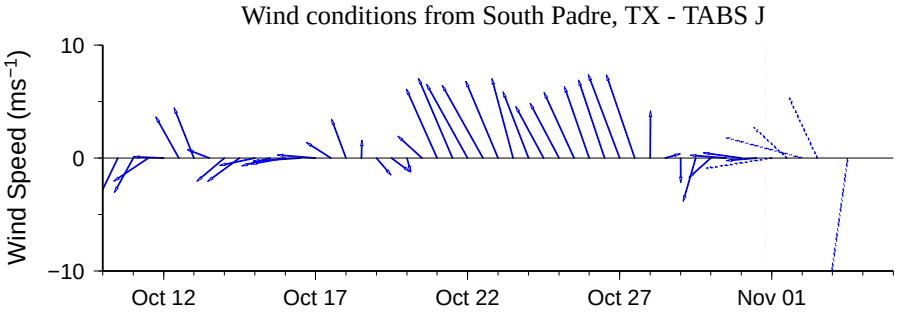
Forecast models indicate a maximum bloom transport from coastal sample locations of 10-15 km south from the Galveston Bay region, 100-110 km south from the Matagorda Peninsula region, 80-100 km south from the Port Aransas region, 110 km south along the Padre Island National Seashore, and 150-175 km south from Brazos Santiago Pass from October 29 to November 3. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Kavanaugh, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



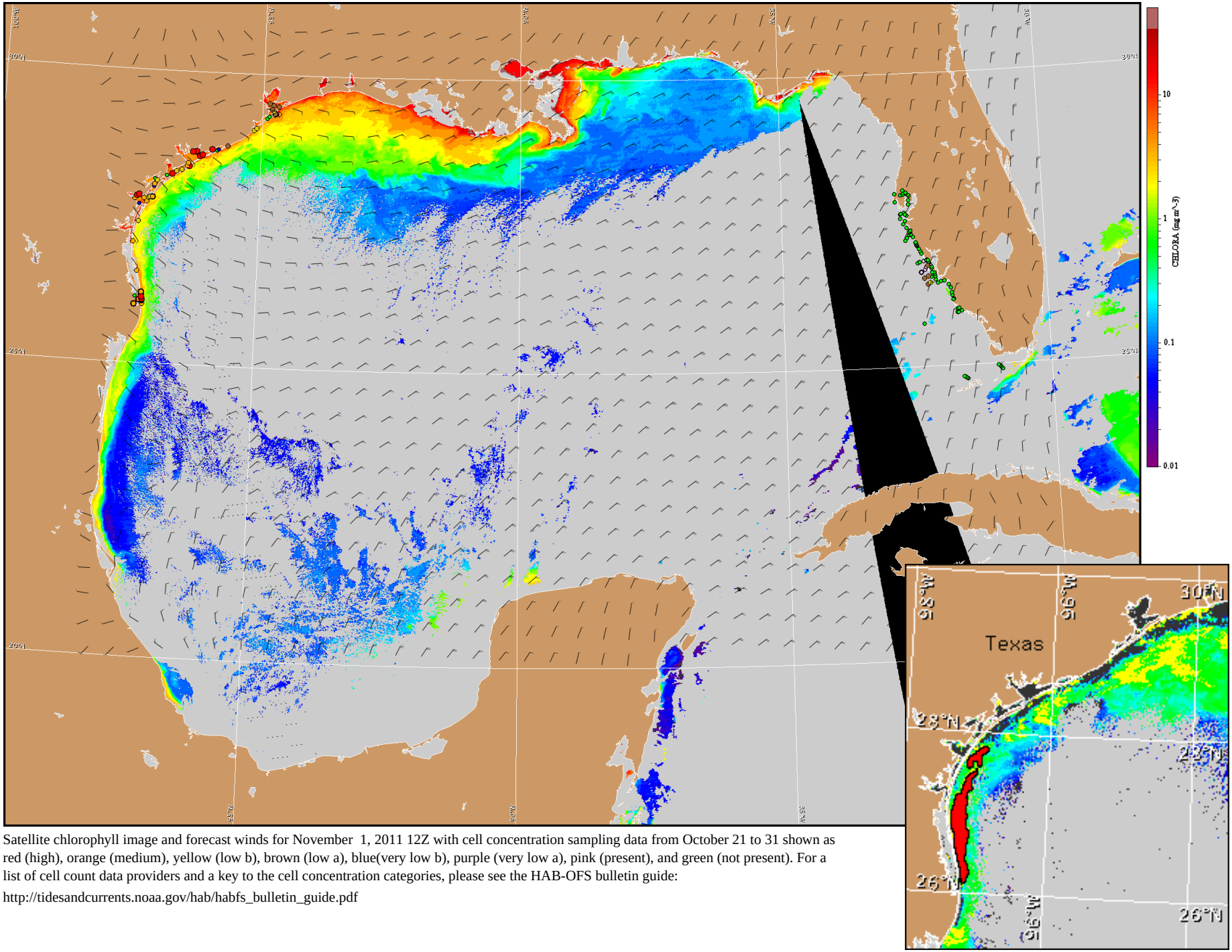


Wind Analysis

Galveston/Freeport: Northeast to east winds (5-15 kn, 3-8 m/s) today and tonight. Southeast winds (10-15 kn, 5-8 m/s) Tuesday. South winds (5-15 kn) Wednesday becoming west winds (20-25 kn, 10-13 m/s) late Wednesday night.

Port Aransas: East winds (5-15 kn) tonight through Tuesday. Southeast winds (10-25 kn, 5-13 m/s) Tuesday night through Wednesday.

South Padre: East winds (10 kn, 5 m/s) today and tonight. Southeast winds (10-15 kn) Tuesday through Wednesday.



Satellite chlorophyll image and forecast winds for November 1, 2011 12Z with cell concentration sampling data from October 21 to 31 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:
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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).